

IN THE CLAIMS

Please amend claims 1 and 24.

Please cancel claim 10.

SUB  
D17  
Q'

1. (Amended) A process, comprising:

forming a first dielectric layer on a substrate, wherein the first dielectric layer has a dielectric constant;

patterning the first dielectric layer such that a plurality of vertically oriented posts are formed, the post having a top surface;

forming a second dielectric layer over and adjacent to the posts, the second dielectric layer having a top surface and substantially filling up the area adjacent to said posts, wherein the second dielectric layer has a dielectric constant, said dielectric constant of the first layer being higher than said dielectric constant of the second layer;

wherein said plurality of vertically oriented posts are used to provide mechanical reinforcement of the second dielectric layer which makes up the bulk of an inter-layer dielectric material;

polishing the second dielectric layer such that its top surface is substantially even with the top surfaces of the posts; and

forming an inlaid metal interconnection in the second dielectric layer.

2. The process of Claim 1, wherein the substrate comprises a dielectric material.

3. The process of Claim 1, wherein the substrate is a material selected from the group consisting of silicon carbide, silicon nitride, and carbon doped oxides of silicon.
4. The process of Claim 1, further comprising curing the second dielectric layer.
5. The process of Claim 1, further comprising aging the second dielectric layer.
6. The process of Claim 1, further comprising forming dual damascene openings in the second dielectric layer.
7. The process of Claim 1, wherein forming the first dielectric layer comprises depositing an oxide of silicon.
8. The process of Claim 7, wherein forming the second dielectric layer comprises chemical vapor deposition of a low-k material.
9. The process of Claim 7, wherein forming the second dielectric layer comprises spinning on a low-k material.

Sub  
Q2 C  
24. (Amended) A process, comprising:  
depositing a silicon nitride layer on a wafer;

92 depositing an insulating layer over the silicon nitride layer, wherein the insulating layer has a dielectric constant;

patterning the insulating layer such that a plurality of structures are formed, the structures each having a top surface;

depositing a porous dielectric material over and adjacent to the structures, the porous dielectric material having a void fraction, wherein the porous dielectric material substantially fills out the area adjacent to said structures and wherein the porous dielectric material has a dielectric constant, said dielectric constant of the insulating layer being higher than the dielectric constant of the porous dielectric material;

wherein said plurality of structures formed in the insulating layer provides mechanical reinforcement of the porous dielectric material which makes up the bulk of an inter-layer dielectric material;

polishing the porous dielectric material such that a top surface thereof is substantially even with the top surfaces of the structures;

treating the porous dielectric material such that its void fraction is increased; and

forming an inlaid metal interconnection in the porous dielectric material.